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AMENDMENTS TO CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A timing generator of a flat panel display for generating a PAC (polarity arrangement control) signal and sending the same to a data driver so that the data driver is operative to control a polarity of display data based on the PAC signal and send the display data to a display panel, the timing generator comprising:

a storage unit for storing ~~a plurality of~~ plural sets of polarity data and ~~a plurality of~~ plural PAC signals in advance wherein each said set of polarity data includes a plurality of plural data polarities and each said set of polarity data corresponds to one of the PAC signals respectively;

an operation unit for receiving the display data, ~~the plurality of sets~~ each said set of polarity data, and a corresponding one of the PAC signals so that the operation unit is operative to perform an inner product operation with respect to the polarity data of each said set of polarity data and the display data for obtaining a sum of coupling voltages corresponding to the polarity data of each said set of polarity data; and

a comparison unit for comparing the sum of coupling voltages with a predetermined value, and outputting the corresponding PAC signal if the sum of coupling voltages is smaller than a pre-determined value, thereby generating a PAC signal with the sum of coupling voltages smaller than the pre-determined value.

2. (Currently amended) The timing generator as claimed in claim 1, wherein the output PAC signal corresponds to the sum of coupling voltages of the set of polarity data smaller than a pre-determined value.

3. (Currently amended) The timing generator as claimed in claim 1, wherein the output PAC signal corresponds to the set of polarity data having a smallest sum of coupling voltages if the sum of coupling voltages of each said set of polarity data is larger than the predetermined value.

4. (Currently Amended) The timing generator as claimed in claim 1, wherein the operation unit comprises an adder for performing an inner product operation with respect to each said set of polarity data.

5. (Cancelled)

6. (Currently amended) A timing generator of a panel display for generating a PAC (polarity arrangement control) signal and sending the same to a data driver so that the data driver is operative to control a polarity of display data based on the PAC signal and send the display data to a display panel, the timing generator comprising:

a storage unit for storing ~~a plurality of~~ plural sets of polarity data and ~~a plurality of~~ plural PAC signals wherein each said set of polarity data includes a plurality of data polarities and each said set of polarity data corresponds to one of the PAC signals;

an operation unit for receiving the display data, the ~~plurality of~~ plural sets of polarity data, and ~~a the~~ corresponding ~~one of the~~ PAC signals so that the operation unit is operative to perform an inner product operation with respect to each said set of polarity data and the

display data for obtaining a sum of coupling voltages corresponding to ~~the~~ each said set of polarity data; and

a comparison unit for comparing the sums of coupling voltages with each other for selecting a smallest sum of coupling voltages, and outputting a corresponding one of the PAC signals to the data driver, thereby generating a PAC signal with the smallest sum of coupling voltages among the sums of coupling voltages corresponding to all the sets of polarity data.

7. (Currently amended) The timing generator as claimed in claim 6, wherein the output PAC signal corresponds to the set of polarity data having the smallest sum of coupling voltages.

8. (Currently Amended) The timing generator as claimed in claim 6, wherein the operation unit comprises an adder for performing an inner product operation with respect to each said set of polarity data.

9. (Cancelled)

10. (Original) A method of generating PAC (polarity arrangement control) signal, comprising the steps of:

receiving display data, ~~at least one set~~ plural sets of ~~predetermined~~ polarity data, and ~~at least one plural~~ PAC ~~signal~~ signals corresponding to the ~~at least one set~~ plural sets of PAC polarity data;

performing an inner product operation with respect to ~~the at least one~~ each said set of PAC polarity data and the display data for obtaining a sum of ~~at least one~~ coupling voltages;

comparing the sum of ~~at least one~~ coupling voltages with a predetermined value; and

outputting the PAC signal of the set of polarity data corresponding to the sum of ~~at least one~~ coupling voltages if the sum of ~~at least one~~ coupling ~~voltage~~ voltages is smaller than the predetermined value, thereby generating a PAC signal with the sum of coupling voltages smaller than the pre-determined value.

11. (Currently amended) The method as claimed in claim 10, further comprising the a step of outputting the PAC signal having a smallest sum of ~~at least one~~ coupling ~~voltage~~ voltages if all the sums of ~~at least one~~ coupling ~~voltage~~ voltages are larger than the pre-determined value after the comparison step.

12. (Currently amended) A method of generating PAC (polarity arrangement control) signal, comprising the steps of:

receiving display data, ~~at least one set~~ plural sets of predetermined polarity data, and ~~at least one~~ plural PAC ~~signal~~ signals corresponding to the ~~at least one set~~ plural sets of PAC polarity data;

performing an inner product operation with respect to each said set of polarity data and the display data for obtaining a sum of ~~a plurality of~~ coupling voltages corresponding to the ~~at least one set~~ of polarity data;

comparing the sums of coupling voltages with each other for selecting a smallest sum of coupling voltages; and

outputting a corresponding PAC signal having the smallest sum of coupling voltages, thereby generating a PAC signal with the smallest sum of coupling voltages among the sums of coupling voltages corresponding to all the sets of polarity data.

In FIG. 8:

The description in steps S801-S803 is corrected to meet with the amended specification.

to 10V or 0V the voltage will be. Therefore, one can easily know that received display data is, for example, [16, 8, 2, 2]. Further, the operation unit 3212 receives one set of polarity data having elements (data polarities), in which the element is +1 when the data polarity is positive and -1 when the data polarity is negative, which clearly implies that the set of polarity data can be represented as a polarity vector [+1, -1, -1, -1], for example. Therefore, according to the inner product operation, which is a fundamental mathematic operation well known to those skilled in the art, an inner product operation performed on the display data [16, 8, 2, 2] and the set of polarity data [+1, -1, -1, -1] is $(16*+1)+(8*-1)+(2*-1)+(2*-1) = +4$. Because these operations only include adding and subtracting operations, it is of course well-known that the inner product operation can be implemented by using an adder. Accordingly, one skilled in the art would have had not problem making and using the invention as originally described, including implementation of the presently claimed inner product operation.

Response to Rejections Under 35 U.S.C. § 102

The rejection of claims 1-12 is under 35 U.S.C. § 102(e) as being anticipated by Takeda et al. (U.S. Patent No. 7,027,025) is respectfully traversed on the grounds that the Takeda patent fails to disclose or suggest a flat panel display timing generator in which:

- plural sets of polarity data and plural corresponding PAC signals are stored in advance,
- an operation is then performed with respect to one set of polarity data and the display data for obtaining a corresponding sum of coupling voltages,
- the sum of coupling voltages of one set of polarity data is compared with a predetermined value, and if